

REMARKS/ARGUMENTS

This amendment is responsive to the Office Action mailed 6/1/2007 (hereinafter, "6-1-07 OA") wherein: Claim 36 was rejected under 35 USC §112, second paragraph as being indefinite; Claims 1-3, 5, 12-14, 23-26, and 31 were rejected under USC §103 (a) on Nishihara et al. (US 4,903,317) in view of Tuy et al. (US 5,297,043); Claims 4 and 7 were rejected under USC §103 (a) on Nishihara, et al. in view of Tuy et al. and further in view of Scorse, et al. (US 5,128,776); Claims 6 and 8 were rejected under 35 USC §103 (a) on Nishihara, et al. in view of Tuy et al. and further in view of Ransford, et al. (EP 479,563 A2); Claims 15, 16, 32, 33, and 35-38 were rejected under USC §103 (a) on Nishihara, et al. in view of Tuy et al. and further in view of Sutherland, et al. (US PUB 2005/0277823 A1); Claims 17 and 18 were rejected under USC §103 (a) on Nishihara, et al. in view of Tuy et al. and further in view of Chui, et al. (US 5,541,473); Claim 19 was rejected under USC §103 (a) on Nishihara, et al. in view of Tuy et al. and Chui, et al. and further in view of Reinsch. (US 5,134,661); Claims 20-22 were rejected under USC §103 (a) on Nishihara, et al. in view of Tuy et al. and further in view of Zanelli (US 6,515,657); and Claim 34 was objected to as being dependent upon a rejected base claim.

Claims 14, 32, and 36 were amended. Claim 34 was cancelled.

Claims 1-8, 12-26, 31-33, and 35-38 remain pending in this application. Reconsideration in light of the following remarks is respectfully requested.

In the 6-1-07 OA, the Examiner stated, "Regarding claim 34, closest art of record, while disclosing the method as recited in its parent claim 32 and further the use of a binary mask for defining the space sequence as recited in claim 35, non, alone or in combination, discloses, suggests or teaches using a collimator ring for this purpose." **6-1-07 OA, Pg. 16.**

Independent Claims 14 and 32 have been amended to incorporate the limitations of claim 34. Support for the amendment of Claims 14 and 32 may be found in paragraph [0022] of Applicant's Application which states, "The second step involves the assumption that the information pertaining to x ray angiography is limited to the circular zone of a collimator ring of the x ray angiogram system and therefore the circular zone is the region that is selected." **Applicant's Application, paragraph [0022].** Further support may be found in paragraph [0026] of Applicant's Application.

Therefore, the Applicant respectfully submits that independent Claims 14 and 32 are now in condition for allowance, which allowance is earnestly solicited. Accordingly, each of Claims 33, and 35-38, which depend from Claim 32 are now also in condition for allowance which allowance is also earnestly solicited.

The rejection of Claim 36 under 35 USC §112, second paragraph is respectfully traversed.

In the 6-1-07 OA, the Examiner rejected Claim 36 of Applicant's Application 35 USC §112, second paragraph stating, "Claim 36 recites the term 'comparatively small' in line; it renders the claim indefinite because it is vague and ambiguous and therefore the mete and bound of the claim cannot be ascertained." **6-1-07 OA, §4, pgs. 2-3.**

Claim 36 of Applicant's Application has been amended to read:

The method of claim 32, wherein the portion of the acquired image sequence is confined within a ~~comparatively small~~ time and space of corresponding to a predefined portion of the acquired image sequence.

***Applicant's Application, Claim 36.*** Support for the amendment may be found in the replacement paragraph submitted the response to office action dated December 20, 2006 that replaced the paragraph bridging pages 5 and 6. The replacement paragraph states, "The image compression and decompression method as described above ensures the utilization of the image of interest confined within comparatively small space and time (span of interest)."

The Applicant respectfully submits that the amendment to Claim 36 obviates the Examiner's rejection under 35 USC §112, and requests that the Examiner's rejection thereunder be withdrawn.

In the 6-1-07 OA, the Examiner rejected Claims 1-3, 5, 12-14, 23-26, and 31 under USC §103 (a) on Nishihara et al. (US 4,903,317) in view of Tuy et al. (US 5,297,043). The Applicant respectfully traverses the Examiner's rejection.

In the 6-1-07 OA, the Examiner stated, "Tuy and Nishihara are combinable because they are from the same field of endeavor of selecting image portion." **6-1-07 OA, Pg. 4.**

The Applicant respectfully directs the attention of the Examiner to U.S. classification of each of Tuy and Nishihara. Tuy has been classified in U.S. class 364, titled, "DATA PROCESSING: MEASURING, CALIBRATING, OR TESTING" and subclass 422, titled, "Molecular structure or composition determination". Contrary to the assertion of the Examiner, neither this class nor this subclass is directed to "selecting image portion."

Nishihara has been classified in U.S. class 382, titled, "<http://www.uspto.gov/web/patents/classification/uspc382/defs382.html>IMAGE ANALYSIS" and subclass 244, titled, "Lossless compression". Contrary to the assertion of the Examiner, neither this class nor this subclass is directed to "selecting image portion."

"In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." **MPEP §2141.01(a)** (citing *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992).

In the 6-1-07 OA, the Examiner stated, "At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Tuy with the teaching of Nishihara by applying lossless compression to the selected portion. The motivation would have been to reduce the storage requirement while preserving the fidelity of the important portion, such as the diseased portion of medical images, as Nishihara indicates in Col. 8, lines 35-43."

A reading of the portion of Nishihara cited by the Examiner reveals that that portion of Nishihara discloses merely that, "An image region other than the diseased portion is observed only to determine the position of the diseased portion in the entire image, and hence, need not have a high image quality." **Nishihara, Col. 8, Ln. 40-43.** Contrary to the assertion of the Examiner, the portion of Nishihara cited by the Examiner does not teach, suggest, or disclose "...reduc[ing] the storage requirement while preserving the fidelity of the important portion..." *Supra.*

The Applicant respectfully submits that combination of Tuy and Nishihara suggested by the Examiner is improper as neither Tuy nor Nishihara includes a reason or motivation to combine the inventions disclosed therein. "Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so." *In re Kahn*, 441 F.3d 977, 986, 78 USPQ2d 1329,

1335 (Fed. Cir. 2006).

Accordingly, the Applicant respectfully submits that the rejection of Claims 1-3, 5, 12-14, 23-26, and 31 under 35 USC §103(a) be withdrawn.

In forming the rejection of Claims 2, 3, 25, and 26 under 35 USC §103(a), the Examiner stated, on pages 4 and 5 of the 6-1-07 OA that, "Tuy further discloses • (claims 2 & 26) wherein the portion of the acquired image sequence is a plurality of frames in a span of interest [Fig. 3C] • (claims 3 & 25) wherein the portion of the acquired image sequence is at least one frame in a span of interest." **6-1-07 OA, Pg. 4-5.**

It is unclear as to what the Examiner intended by asserting that FIG. 3C of Tuy discloses any of the matter claimed in Claims 2, 3, 25, and 26. Tuy discloses, "For example, with reference to FIGS. 3B and 3C, the coordinates of an exemplary point 56 are translated, scaled, and rotated by algorithm means 36 in reverse to identify a corresponding point 58 in the data and a viewer projection direction 60." **Tuy, Col. 6, Ln. 29-33.**

In Claims 2 and 26, Applicant's Application includes the recitation, "...wherein the portion of the acquired image sequence is a plurality of frames in the span of interest." **Applicant's Application, Claims 2 and 26.** In Claims 3 and 25, Applicant's Application includes the recitation, "...wherein the portion of the acquired image sequence is at least one frame in the span of Interest." **Applicant's Application, Claims 3 and 25.**

FIG. 3C of Tuy does not illustrate any matter pertaining to a span of interest, but rather illustrates point identification and viewer projection direction. The Applicant respectfully submits that FIG. 3C does not render obvious any of Claims 2, 3, 25, or 26. The Applicant respectfully requests that the rejection of Claims 2, 3, 25, and 26 under 35 USC §103(a) be withdrawn.

In rejecting Claim 5 of Applicant's Application, the Examiner stated, "Regarding claim 5, the combined invention of Tuy and Nishihara further discloses wherein selecting the portion of the acquired image sequence comprises using a user to select option for selecting the portion of image [Tuy: Fig. 1, ref. 32]." **6-1-07 OA, PG. 5.**

With regard to element 32 illustrated in FIG. 1, Tuy discloses, "The operator control panel 32 has the appropriate keys, joy stick, or track ball arrangement for the operator to define

the volume of interest and cause it to be displayed on the screen of the video terminal.” **Tuy, Col. 5, Ln. 36-39.**

Claim 5 of Applicant’s Application includes, “The method of claim 1, wherein selecting the portion of the acquired image sequence comprises using a user select option.” **Applicant’s Application, Claim 5.**

Clearly, element 32 of Tuy is not a user select option, as is claimed in Claim 5 of Applicant’s Application. Element 32 of Tuy discloses the various hardware elements of the invention disclosed therein (i.e. – joystick, keys, trackball), but does not disclose “a user select option” as is claimed in Claim 5 of Applicant’s Application. Therefore, the Applicant respectfully submits that Tuy does not render obvious Claim 5 of Applicant’s Application, and respectfully requests that the rejection of Claim 5 under 35 USC 103(a) be withdrawn.

In the 6-1-07 OA, the Examiner rejected Claim 13 under 35 USC §103(a), stating, “...Tuy further discloses wherein the imaging device is a medical imaging device selected from a magnetic resonance imaging system, a computed tomography system, an x ray system, an x ray anigram system and an ultrasound system. [Fig. 1; ref. A and Col. 4, lines 21-27 (CT scanner or MRI)]” **6-1-07 OA, Pg. 5.**

In the section of Tuy cited by the Examiner, Tuy discloses, “The three-dimensional image supply means A in the illustrated embodiment is... particularly a CT scanner. However, other sources of three dimensional image data in the medical imaging field... are also contemplated.” **Tuy, Col. 4, Ln. 21-27.**

Claim 13 of Applicant’s Application includes, “wherein the imaging device is a medical imaging device selected from a magnetic resonance imaging system, a computed tomography system, an x ray system, an x ray angiogram system and an ultrasound system.” **Applicant’s Application, Claim 13.**

While elements of Claim 13 of Applicant’s Application may have the capability of producing three dimensional image data, the elements included therein are not limited to doing so, as is the case with the portion of Tuy cited by the Examiner. As Tuy does not disclose, teach, or suggest an image other than a three-dimensional image, the Applicant respectfully

submits that Tuy does not anticipate nor render obvious Claim 13 of Applicant's Application and respectfully requests that the rejection of claim 13 be withdrawn.

In rejecting Claim 14 under 35 USC §103(a), the Examiner stated, "Claim 14 is similarly analyzed and rejected per the analyses of claims 12 & 13 above." **6-1-07 OA, Pg. 5.**

Claim 14 of Applicant's Application includes, "A method of image compression and decompression for images obtained by an x ray device..." The x ray device of Claim 14 is not limited to the production of three-dimensional images. The x ray device may produce two-dimensional images, as well.

As Tuy does not disclose, teach, or suggest an image other than a three-dimensional image, the Applicant respectfully submits that Tuy does not render obvious Claim 14 of Applicant's Application.

In rejecting Claim 23 under 35 USC §103(a), the Examiner stated, "Claim 23 is similarly analyzed and rejected as per the analysis of claim 1 and additionally the fact that lossy compression methods are well-known conventional compression methods and the motivation would have been because they generally have a higher compression ratio than lossless techniques and are preferred when compressed image size is the more important factor. [For example, as admitted in paragraph 0002 of the application.]" **6-1-07 OA, Pg. 5.**

As noted *supra*, the Applicant respectfully submits that the combination of Tuy and Nishihara is improper. Furthermore, the assertion of the Examiner that, "...the motivation would have been because they **generally** have a higher compression ratio than lossless techniques and are preferred..." *supra (emphasis added)*, is improper. "Distilling an invention down to the 'gist' or 'thrust' of an invention disregards the requirement of analyzing the subject matter 'as a whole.'" **MPEP §2141.02** (citing *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984)).

Therefore, the Applicant respectfully submits that Claim 23 of Applicant's Application is not anticipated by the combination of Tuy and Nishihara suggested by the Examiner, and that such combination of the Tuy and Nishihara is improper. The Applicant respectfully requests the rejection of Claim 23 under 35 USC §103(a) be withdrawn.

The Examiner rejected Claims 4 and 7 under 35 USC §103(a) "as being unpatentable over Tuy (5,297,043) and Nishihara (US 4,903,317) as applied to claims 1-3, 5, 12-14, 23-26 and 31 above, and further in view of Scorse et al. (US 5,128,776)." **6-1-07 OA, Pg. 6.**

The Examiner further stated, "Regarding claim 4, the combined invention of Tuy and Nishihara discloses all limitations of its parent, claim 1. Scorse discloses the following limitation that is not expressly disclosed in the combined invention of Tuy and Nishihara: • archiving the analytically relevant image sequence [Fig 1, ref. 34, 38; Col. 4, lines 20-22]" **6-1-07 OA, Pg. 6.**

The Examiner also stated, "The combined invention of Tuy and Nishihara is combinable with Scorse since they have aspects that are from the same field of endeavor of compression." **6-1-07 OA, Pg. 6.**

The Applicant respectfully directs the attention of the Examiner to U.S. classification of Tuy. Tuy has been classified in U.S. class 364, titled, "DATA PROCESSING: MEASURING, CALIBRATING, OR TESTING" and subclass 422, titled, "Molecular structure or composition determination". Contrary to the assertion of the Examiner, neither this class nor this subclass is directed to "compression."

Scorse has been classified in U.S. class 382, titled, "IMAGE ANALYSIS" and subclass 240, titled, "Pyramid, hierarchy, or tree structure". Similarly to Tuy above, "compression" is lacking from the classification of Scorse.

The Applicant therefore respectfully submits that the combination of Tuy, Nishihara, and Scorse suggested by the Examiner would not have been obvious to one skilled in the art, as none of the references cited by the Examiner are in the same field of endeavor. Accordingly, the Applicant respectfully submits that the rejection of Claim 4 under 35 USC §103(a) as being unpatentable over Tuy, Nishihara, and Scorse is improper, and respectfully requests that rejection be withdrawn.

The Examiner rejected Claim 7 of Applicant's Application under 35 USC §103(a), stating, "...the combined invention of Tuy and Nishihara discloses all limitations of its parent, claim 5. In

addition, Scorse further discloses • wherein the user select option comprises manually marking frames of interest [Fig. 1, ref. 18; Col. 4, lines 35-37]" **6-1-07 OA, Pg. 7.**

The portion of Scorse cited by the Examiner discloses, "...the user may specify one or more portions of the visual video image to transmit, or select to transmit the entire image."

**Scorse, Col. 4, Ln. 35-37.**

Claim 7 of Applicant's Application includes, "...wherein the user select option comprises manually marking frames of interest." **Applicant's Application, Claim 7.** Clearly, Claim 7 of Applicant's Application is not limited to video images, as is Scorse. Additionally, Applicant's Application does not limit the manually-selected portions of images to transmission, as does Scorse.

Thus, the Applicant respectfully submits that the combined invention of Tuy, Nishihara, and Scorse do not anticipate Claim 7 of Applicant's Application, and respectfully requests that the Examiner's rejection of Claim 7 under 35 USC § 103(a) be withdrawn.

The Examiner rejected Claims 6 and 8 under 35 USC §103(a), stating that they were unpatentable "...over Tuy (US 5,297,043) and Nishihara (US 4,903,317) as applied to claims 1-3, 5, 12-14, 23-26 and 31 above, and further in view of Ransford et al. (EP 479,563 A2)". **6-1-07 OA, Pg. 7.**

With regard to Claim 6, the Examiner stated, "...the combined invention of Tuy and Nishihara does not expressly disclose the following, which is taught by Ransford:• wherein the user select option comprises segmenting an identifiable anatomy of a patient [Col. 11, lines 28-32]" **6-1-07 OA, Pg. 7.**

Ransford discloses, "...in the editing of a subject chest X-ray, the operator may directly designate an area of interest which includes the outline of the thorax for use in the modeling step and edges of the spine for use in the registration step." **Ransford, Col. 11, Ln. 27-32.**

It is unclear as to what the Examiner intended, as Claim 6 of Applicant's Application does not include a "modeling step", nor does Claim 6 include a "registration step". The Applicant respectfully submits since the Applicant's Application does not include those steps, rejection of



the Applicant's Application by a reference containing those steps as an essential element of operation is improper. "A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention." **MPEP §2141.02** (citing *W.L. Gore & Associates, Inc. v. Garlock, Inc., Supra.*)

Therefore, the Applicant respectfully requests that the rejection of Claim 6 under 35 USC §103(a) be withdrawn.

The Examiner also rejected Claim 8 of Applicant's Application under 35 USC §103(a), citing Tuy, Nishihara, and Ransford. The Examiner cited the same portion of Ransford in rejecting Claim 8 as cited in rejecting Claim 6. The Applicant respectfully submits that, similarly to Claim 6, the above-cited portion of Ransford does not anticipate nor render obvious Claim 8 of Applicant's Application. Thus, the Applicant respectfully submits that the rejection of Claim 8 under 35 USC §103(a) should be withdrawn.

In the 6-1-07 OA, the Examiner rejected Claims 15, 16, 32, 33, and 35-38 under 35 USC §103(a), "as being unpatentable over Tuy (US 5,297,043) and Nishihara (US 4,903,317) as applied to claims 1-3, 5, 12-14, 23-26 and 31 above, and further in view of Sutherland et al. (USPUB 2005/0277823 A1)" **6-1-07 OA, Pg. 8.**

The Applicant respectfully submits that this rejection is improper. The USPTO website indicates that Sutherland et al. (USPUB 2005/0277823 A1), cited by the Examiner, has a filing date of 03-17-2003. The Applicant's Application has a filing date of 7-31-2002. As Applicant's Application was filed prior to that of Sutherland et al. (USPUB 2005/0277823 A1), it is improper for Sutherland et al. to be considered as prior art.

Further, the Examiner stated on page 9 the 6-1-07 OA that, "The combined invention of Tuy and Nishihara is combinable with Sutherland since they have aspects that are from the same field of endeavor of image acquisition."

The Applicant respectfully disagrees with the Examiner's contention. "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). The Applicant respectfully submits that merely having aspects in the same field of endeavor does not place an application in the same field of endeavor as a

reference.

On page 9 of the 6-1-07 OA, the Examiner further stated, "At the time of the invention, it would have been obvious to modify the combined invention of Tuy and Nishihara with the teaching of Sutherland by using x-ray angiograms over a time period (for diagnostic purpose). The motivation would have been to be able to track vascular intervention site, as Sutherland indicates in paragraph 12."

Paragraph [0011] of Provisional Patent Application 60/387,663, to which Patent Application US PUB 2005/0277823 A1 claims priority and issued in the name of Sutherland states, "The present invention pertains to a method and apparatus for tracking vascular intervention sites." **Sutherland Provisional Patent Application 60/387,663, ¶[0011]**. While the noted portion of Sutherland perhaps outlines a motivation for the invention disclosed therein, Sutherland *does not* teach, suggest, or disclose that combining the invention thereof with another invention would be required in order for the invention of Sutherland to achieve its own stated function.

Therefore, the Applicant respectfully submits that, contrary to the assertion of the Examiner found on page 10 of the 6-1-07 OA, it would *not* "have been obvious to combine Sutherland with Tuy and Nishihara to obtain the invention as specified in Claim 15." **6-1-07 OA, Pg. 10.**

In rejecting Claims 16 and 33, the Examiner stated, "Regarding Claim 16 and similarly claim 33, Sutherland further teaches/suggests a span for analysis as the span when dye is present, i.e., begins when the dye appears and ends when it disappears [Paragraph 3, last 3 lines]." **6-1-07 OA, Pg. 10.**

The last three lines of ¶[0003] of Sutherland state, "A user can then use an x-ray or angiogram to discover any narrowing in the arteries by analyzing how the dye traveled through the vessel" **Sutherland Provisional Patent Application 60/387,663, ¶[0003]** (*emphasis added*).

Claim 16 of Applicant's Application includes, "...wherein the two time instances comprise a first time instance when a dye appears and second time instance when the dye disappears." **Claim 16, Applicant's Application** (*emphasis added*). Claim 33 of Applicant's Application

includes, "...wherein the time sequence begins when the **dye appears** in the acquired image sequence and the time sequence ends when the **dye disappears** in the acquired image sequence." **Claim 33, Applicant's Application** (*emphasis added*).

Sutherland discloses an analysis of traveling dye. Claims 16 and 33 of applicant's application each include a step in defining a time instance or sequence. The Applicant respectfully submits that analyzing a dye's method of traveling, as disclosed in Sutherland is not the same as defining a time instant or sequence. Therefore, the Applicant respectfully submits that Sutherland does not anticipate nor render obvious either of Claims 16 or 33 of Applicant's Application, and thus the Applicant respectfully requests that the rejections of those Claims under 35 USC 103(a) be withdrawn.

In rejecting Claim 35, the Examiner stated, "...note that Nishihara further discloses defining space sequence using a binary mask [Fig. 11, ref. A and Col. 9, lines 11-14; note that the coordinates specify a binary mask]." **6-1-07 OA, Pg. 10.**

It is unclear as to what the Examiner intended, as Nishihara states, "...coordinate data of ROI a is output from unit 68 to first and second address output circuits..." **Nishihara, Col. 9, Ln. 12-13.** Nishihara does not teach, suggest, or disclose that the address output circuits specify a binary mask. Therefore, the Applicant respectfully disagrees with the contention of the Examiner that Nishihara discloses, "...wherein the space sequence is defined by a binary mask." **Applicant's Application, Claim 35.** Therefore, the Applicant respectfully requests that the rejection of Claim 35 under 35 USC §103 be withdrawn.

In rejecting Claim 36 of Applicant's Application, the Examiner stated, "Regarding Claim 36, the span of time for the images selected per Tuy's disclosure (per the analysis of claim 1) is considered comparatively small." **6-1-07 OA, Pg. 10.**

Amended Claim 36 of Applicant's Application does not contain the limitation "comparatively small". Therefore, the Applicant respectfully submits that the grounds for the Examiner's rejection of 36 have been obviated. Thus, the Applicant respectfully submits that the rejection of Claim 36 under 35 USC § 103(a) be withdrawn.

In rejecting Claims 37 and 38 of Applicant's Application, the Examiner stated, "...the combined invention of Tuy, Nishihara and Sutherland closes substantially the claimed invention

as set forth in the discussion above for claim 16, namely that an unspecified percentage of images are selected and compression is applied that achieves an unspecified compression ratio." **6-1-07 OA, Pg. 10.**

Assuming that the Examiner is referring to the discussion of Claim 16 on page 10 of the 6-1-07 OA, the Applicant respectfully submits that Claim 16 of Applicant's Application and Claims 37 and 38 of Applicant's Application relate to very different aspects of the Applicant's Application. Therefore, it is unclear as to how the rejection of Claim 16 above has any bearing on Claims 37 and 38.

Furthermore, Claim 37 of Applicant's Application discloses, "the portion of the acquired image sequence is provided by frames of interest, the acquired image sequence is provided by total frames, and a ratio of the frames of Interest to the total frames is in the range of 46.83 to 76.47 percent." **Applicant's Application, Claim 37.**

Similarly, Claim 38 discloses, "...a compression ratio for the portion of the acquired Image sequence has an improvement over a compression ratio for the acquired image sequence in the range of 13.15 to 16.96 percent." **Applicant's Application, Claim 38.**

Clearly, Claims 37 and 38 disclose a specified percentage of images that are selected and specify a compression ratio. The Examiner also stated in the 6-1-07 OA that, "The combined invention of Tuy, Nishihara and Sutherland does not disclose expressly the specific ranges for the selection percentage (claim 37) or compression ratio (claim 38)." **6-1-07 OA, Pg. 10.**

As such, the Applicant respectfully submits that the Examiner's contention, "...[dis]closes substantially the claimed invention as set forth in the discussion above for claim 16, namely that an unspecified percentage of images are selected and compression is applied that achieves an unspecified compression ratio," is incorrect. Therefore, the Applicant respectfully requests that the rejection of Claims 37 and 38 be withdrawn.

In the 6-1-07 OA, the Examiner rejected Claim 17 of Applicant's Application, stating, "Per the analysis of claim 15, the combined invention of Tuy and Nishihara discloses all limitations of claim 17 except for the imaging device, which is an MRI for claim 17. However,

Chui discloses compressing MRI image sequences [Col. 6, lines 36-44].” **6-1-07 OA, Pg. 11.**

The Applicant respectfully submits that the combination of Tuy and Nishihara with Chui would not have been obvious. Chui is classified as belonging to class 348, entitled, “TELEVISION” and subclass 390.1, entitled, “Data rate reduction”. Neither Tuy nor Nishihara are related to television, and thus, the Applicant respectfully submits that it would not have been obvious to combine the inventions of Tuy and Nishihara with Chui. As noted previously herein, the Examiner’s assertion that, “Tuy and Nishihara is combinable with Chui since they have aspects that are from the same field of endeavor of image compression,” is improper, as the test for combination clearly states, “In order to rely on a reference as a basis for rejection of an applicant’s invention, **the reference** must either be in the **field of applicant’s endeavor...**” MPEP §2141.02, *supra In re Oetiker, Supra (emphasis added)*. The Applicant respectfully submits that this standard does not apply to “aspects”, but rather to **each of the references as a whole.**

In rejecting Claim 18 of Applicant’s Application in the 6-1-07 OA, the Examiner stated, “Regarding Claim 18, note that manually selecting frames is well known and practiced in the art. [For example, per the analysis of claim 7, Scorse discloses manual selection of the frames of interest.]” **6-1-07 OA, Pg. 12.**

As noted previously herein, the portion of Scorse cited by the Examiner discloses, “...the user may specify one or more portions of the visual video image to transmit, or select to transmit the entire image.” **Scorse, Col. 4, Ln. 35-37.** The Applicant respectfully submits that while Scorse may disclose which portions of a visual image to transmit, Scorse does not disclose, “...selecting the plurality of frames of interest comprises using a user select option for manually selecting the plurality of frames of interest in a space sequence.” **Applicant’s Application, Claim 18.** Therefore, the Applicant respectfully requests that the rejection of Claim 18 under 35 USC §103(a) be withdrawn.

In the 6-1-07 OA, the Examiner rejected Claim 19, stating:

Regarding Claim 19, the combined invention of Tuy, Nishihara and Chui discloses all limitations of its parent, claim 17. The combined invention of Tuy, Nishihara and Chui does not expressly disclose that the frames of interest in a

space sequence are automatically selected using edge detection. However, Reinsch suggests using edge detection to select areas of interest. {Abstract: lines 1-9]

In rejecting Claim 20 of Applicant's Application, the Examiner stated, "The combined invention of Tuy and Nishihara does not expressly disclose that the imaging device is an ultrasound device. However, Zanelli discloses using an ultrasound device to acquire image data. [Abstract; Fig. 6, ref. 50; Col. 28-30]" **6-1-07 OA, Pg. 14.** The Examiner further stated, "The combined invention of Tuy and Nishihara is combinable with Zanelli because they are from the same field of endeavor of selecting image portion." **6-1-07 OA, Pg. 14.**

It is unclear as to how Zanelli belongs to a field of endeavor named "selecting image portion", when Zanelli is classified as belonging to US class 345, entitled, "COMPUTER GRAPHICS PROCESSING AND SELECTIVE VISUAL DISPLAY SYSTEMS" and subclass 419, entitled, "Three-dimension".

Furthermore, the Examiner stated, "...it would have been obvious to one of ordinary skill in the art to modify the combined invention of Tuy and Nishihara with the teachings of Zanelli by using an ultrasound device for image acquisition. The motivation would have been because ultrasound device does not expose patients or medical personnel to radiation, as Zanelli indicates in Col. 2, lines 18-26." **6-1-07 OA, Pg. 15.**

The Examiner's assertion as to why an ultrasound device may be used in a medical context may be correct. However, the assertion of the Examiner that an "...ultrasound device does not expose patients or medical personnel to radiation..." does not provide a motivation to combine the invention of Zanelli with the combined invention of Tuy and Nishihara.

Therefore, the Applicant respectfully submits that it would **not** have been obvious to combine Zanelli with the combined invention of Tuy and Nishihara. Thus, the Applicant respectfully requests that the rejection of Claim 20 of Applicant's Application be withdrawn.

In rejecting Claim 21 of Applicant's Application, the Examiner stated, "Regarding claim 21, Official Notice is taken that ultrasonic images are usually fan-shaped (and therefore the

selected image will be fan-shaped). [For example, see Koo et al. (US 5,846,203).]" **6-1-07 OA, Pg. 15.**

The Applicant respectfully traverses the Official Notice taken by the Examiner that "ultrasonic images are usually fan-shaped".

Koo et al. discloses, "FIG. 2A illustrates a conventional image with range gate, which is produced by the ultrasound system shown in FIG. 1. The ultrasound image 100 is typically a fan-shaped display of the tissue that is positioned under the ultrasonic probe." **Koo et al., Col. 2, Ln. 11-15.**

As noted by the court in *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970) cited by the MPEP §2144.03, the notice of facts beyond the record which may be taken by the examiner must be "capable of such instant and unquestionable demonstration as to defy dispute" (citing *In re Knapp Monarch Co.*, 296 F.2d 230, 132 USPQ 6 (CCPA 1961)).

Koo et al. clearly states that the image of FIG. 2A is produced by the ultrasound system shown in FIG. 1 thereof. FIG. 1 of Koo et al. is, "...a block diagram of a Doppler ultrasound system..." **Koo et al, Col. 2, Ln. 50.** Koo et al. does not state that all ultrasound images are fan-shaped.

Therefore, the Applicant respectfully submits that the Applicant has traversed Examiner's taking of Official Notice because the Examiner's official notice concluding that "ultrasonic images are usually fan-shaped" is not "capable of such instant and unquestionable demonstration as to defy dispute." (see MPEP §2144.03 *In re Knapp Monarch Co. Supra*) and that the Examiner's taking of Official Notice in regards to Claim 21 was improper. Thus, the Applicant respectfully requests that the rejection of Claim 21 be withdrawn.

In rejecting Claim 22, the Examiner stated, "Regarding claim 22, note that manually selecting frames is well known and practiced in the art. [For example, per the analysis of claim 7, Scorse discloses manual selection of the frames of interest.]" **6-1-07 OA, Pg. 15.**

As noted previously herein, the portion of Scorse cited by the Examiner discloses, "...the user may specify one or more portions of the visual video image to transmit, or select to transmit

the entire image.” **Scorse, Col. 4, Ln. 35-37.** The Applicant respectfully submits that while Scorse may disclose which portions of a visual image to transmit, Scorse does not disclose, “...selecting the at least one frame of interest comprises selecting a fan shaped image using manual means.” **Applicant’s Application, Claim 22.** Therefore, the Applicant respectfully requests that the rejection of Claim 22 under 35 USC §103(a) be withdrawn.

In view of the foregoing amendment and for the reasons set out above, the Applicant respectfully submits that independent Claims 1, 12, 14, 15, 17, 20, 23, 24, 31, and 32 are now in condition for allowance. The Applicant further submits that the remaining Claims, each of which depends, directly or indirectly, from one of the independent Claims are now also in condition for allowance. Favorable reconsideration and prompt allowance of the application are respectfully requested.



Should the Examiner believe that anything further is needed to place the application in condition for allowance, the Examiner is requested to contact Applicants' undersigned representative at the telephone number below.

Please charge our deposit account # 07-0868, for a one- month extension for application No. 10/064,620.

Respectfully submitted,

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